

REMARKS

Applicants respectfully request reconsideration of the present application in view of the reasons that follow.

No claims are currently cancelled, and no claims are currently being amended or added.

Claims 1 – 4 are pending in this application.

I. Acknowledgement of amendment, remarks and status of the claims

Applicants acknowledge that the amendment and remarks filed July 22, 2003 are entered and considered. Further, Applicants acknowledge that the objections to the specification and trademarks and the rejections under 35 U.S.C. § 112, first and second paragraphs, are withdrawn in view of Applicants' amendment and remarks filed July 22, 2003.

II. Claim rejection under 35 U.S.C. § 103(a)

Claims 1 – 4 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Balkovec *et al.* (U.S. Patent No. 5,684,128; hereinafter "the '128 patent") in view of Balkovec *et al.* (U.S. Patent No. 5,159,059; hereinafter "the '059 patent"). Office Action at page 3.

In support of this rejection, the Examiner must present evidence of both (a) some suggestion or motivation to modify the reference or to combine prior-art teachings and (b) a reasonable expectation of success in such a modification or combination. In addition, the reference or references must teach or suggest each feature recited in the claim under consideration.

The Examiner has taken the position that the '128 patent teaches a process for converting an echinocandin peptide to the monodeoxy analog by reducing the C4-htyr (homotyrosine) with Raney Nickel in a solvent selected from the group consisting of methanol, ethanol, and dioxane at a pH of 3-9 without protecting, and then deprotecting the

C5-Orn (ornithine) hydroxyl group prior to reducing the echinocandin peptides as recited in claim 1. The Examiner supports his position by pointing to columns 13 and 14 of the '128 patent, where the patent allegedly teaches the selective reduction of echinocandins to their monodeoxy analogs using Raney nickel.

Applicants respectfully traverse this rejection. As an initial matter, applicants respectfully point out that the '128 patent does not provide the suggestion or motivation for the conversion of an echinocandin peptide to the monodeoxy analog using Raney nickel, as recited in claim 1. Instead, the specification of the '128 patent, at columns 13 and 14 describes reactions that do not even involve the production of a monodeoxy analog of an echinocandin peptide.

The specification of the '128 patent discloses a method for the conversion of a carboxamide group to a nitrile. *See* column 13, lines 32 – 45. The nitrile is subsequently reduced to the corresponding amine using, preferably, sodium borohydride and cobaltous chloride in an alcoholic solvent. *See* column 14, lines 30 – 35. The specification mentions that Raney nickel may also be used to reduce the nitrile. *See* column 14, lines 36 – 42. Applicants point out, however, that none of the reactions result in the conversion of the echinocandin peptide to the monodeoxy analog. In short, the '128 patent fails to provide the suggestion or motivation for the conversion of an echinocandin peptide to the monodeoxy analog using Raney nickel, as recited in claim 1.

The deficiencies in the '128 patent are not remedied by the teachings of the '059 patent. Using formula (I) of the present application as a point of reference, the '059 patent describes the conversion of a cyclohexapeptide of formula (A) bearing a hydroxyl group at positions C4 (when Q is OH) and C5 into a compound of formula (Ia) or into a compound of formula (Ib). *See* column 3, line 1 to column 5, line 65. The compound of formula (Ia) in the '059 patent is a C4,C5-dideoxy analog of the hexapeptide, while the compound of formula (Ib) is the C5-monodeoxy analog of an hexapeptide. The '059 patent also mentions that, under conditions employing an alcoholic medium, the C5-monohydroxy compound of formula (Ic) may be obtained. *See* column 5, lines 31 – 65.

The '059 patent, however, does not provide any suggestion or motivation for selectively making the compounds of the present invention where $X = H$, while maintaining the C5 hydroxyl group intact ($Y = OH$), from a compound where $X = Y = OH$. None of the working examples of the '059 patent teach how the C4 hydroxyl may be selectively reduced over the C5 hydroxyl. In addition, the only reducing agent that is used in all of the examples of the '059 patent is sodium cyanoborohydride and *not* Raney nickel. In fact, Raney nickel is mentioned in the '059 patent only in the context of the prior art where tetrahydroechinocandin B is *non-selectively* reduced in a two-step process using Raney nickel to give the bis-reduced product. *See* column 1, line 34 to column 2, lines 1 – 45.

It is apparent, therefore, that the Examiner has not marshaled evidence of a suggestion or motivation in the prior art to have modified the teachings of the '128 patent or have combined its teachings with those of the '059 patent, to arrive at the claimed invention. The Examiner also has failed to identify evidence that would have supported a reasonable expectation of success to those ends. Lastly, the combination of the teachings of the '128 patent and those of the '059 patent do not teach all of the claim recitations. Since the teachings of the '128 patent in view of the teachings of the '059 patent do not render claims 1 – 4 unpatentable under § 103(a), reconsideration and withdrawal of the rejection are requested.

III. Conclusion

The present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

Examiner Mohamed is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of

papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R.
§1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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